Furukawa Group Seminar

Date

Oct. 15th, 2024 13:00–14:30

Venue

Kyoto University, KUIAS iCeMS Main Building

2F Seminar Room (#A207)

Registration



• Required from Google form (https://forms.gle/702tfNQeGfumXqE67)

· On-site only

Contact

KUIAS iCeMS Furukawa Group

furukawa-g@icems.kyoto-u.ac.jp

Carbon Nanomaterials as Imaging and Sensing Probes: Unlocking Their Potential in Biomedical Applications



Dr. Marco Raabe

Academia Sinica Postdoctoral Scholar & IAMS Junior Fellow Institute of Atomic and Molecular Sciences Academia Sinica, Taiwan

Abstract

Over the past decades, carbon nanomaterials have gained interest for their optical properties in biological imaging and sensing. This talk will introduce two such materials: nanodiamonds and singlewall carbon nanotubes, which differ in carbon hybridization state and shape, each with unique physical properties. The dense carbon lattice and stable emission of nanodiamonds make them ideal imaging probes for correlative light-electron microscopy, while their nitrogen-vacancy centers enable intracellular temperature sensing. In contrast, the enantiomeric nature of single-wall carbon nanotubes allows for studying chirality-based interactions in biological systems, requiring advanced characterization methods, including our custom-built fluorescence-detected circular dichroism spectrometer for the short-wave infrared region.



FURUKAWA LAB

